

Desktop Evaluation Short Form for Small and Medium PWS

Treatment Recommendations

(FORM 141-C)

A. PWS General Information:

| | | | |
|---|-------|-----|-------|
| 1. PWS Identification No. | <hr/> | | |
| 2. Contact Person: | <hr/> | | |
| Name | <hr/> | | |
| Mailing Address | <hr/> | | |
| | <hr/> | | |
| Telephone | <hr/> | Fax | <hr/> |
| 3. Population Served | <hr/> | | |
| 4. Person responsible for preparing this form: | <hr/> | | |
| Name | <hr/> | | |
| Signature | <hr/> | | |
| Telephone | <hr/> | | |

B. PWS Technical Information

1. Monitoring Results:

Sampling dates: From

 To

First-Flush Tap Monitoring Results:

Lead:

| | | |
|-----------------------------|---|------------|
| Minimum concentration | = | <hr/> mg/L |
| Maximum concentration | = | <hr/> mg/L |
| 90 th percentile | = | <hr/> mg/L |

Copper:

| | | |
|-----------------------------|---|------------|
| Minimum concentration | = | <hr/> mg/L |
| Maximum concentration | = | <hr/> mg/L |
| 90 th percentile | = | <hr/> mg/L |

Point of Entry Tap Monitoring Results:

| | | | | | |
|---|------------------------|----------|----------|----------|----------|
| | Points of Entry | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| Lead Concentration in mg/L: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Copper Concentration in mg/L: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| pH: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Temperature, EC: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Alkalinity, mg/L as CaCO ₃ : | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Calcium, mg/L as Ca: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Conductivity, Fmho/cm@ 25 EC: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Phosphate, mg/L as P: | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Silicate, mg/L as SiO ₂ : | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |

1. Monitoring Results (continued):

Water Quality Parameter Distribution System Monitoring Results:

Indicate whether field or laboratory measurement.

| | Field | Lab |
|---|-------|-------|
| pH: | _____ | _____ |
| minimum = _____ | | |
| maximum = _____ | | |
| alkalinity: | _____ | _____ |
| minimum = _____ mg/L as CaCO ₃ | | |
| maximum = _____ mg/L as CaCO ₃ | | |
| temperature: | _____ | _____ |
| minimum = _____ EC | | |
| maximum = _____ EC | | |
| calcium: | _____ | _____ |
| minimum = _____ mg/L as Ca | | |
| maximum = _____ mg/L as Ca | | |
| conductivity: | _____ | _____ |
| minimum = _____ Fmho/cm@ 25 EC | | |
| maximum = _____ Fmho/cm@ 25 EC | | |
| orthophosphate: | _____ | _____ |
| (If phosphate-based inhibitor is used) | | |
| minimum = _____ mg/L as P | | |
| maximum = _____ mg/L as P | | |
| silicate: | _____ | _____ |
| (If silica-based inhibitor is used) | | |
| minimum = _____ mg/L as SiO ₂ | | |
| maximum = _____ mg/L as SiO ₂ | | |

2. Existing Conditions:

Is treatment used? yes _____ no _____

Identify water source (s):

Source No. 1 _____

Source No. 2 _____

Source No. 3 _____

If treatment is used, is more than one source used at a time? yes _____ no _____

Identify treatment processes used for each source:

| Process | No. 1 | No. 2 | No. 3 |
|------------------|-------|-------|-------|
| Presedimentation | _____ | _____ | _____ |
| Aeration | _____ | _____ | _____ |
| Chemical mixing | _____ | _____ | _____ |
| Flocculation | _____ | _____ | _____ |
| Sedimentation | _____ | _____ | _____ |

2. Existing Conditions (continued):

Identify treatment processes used for each source:

| Process | No. 1 | No. 2 | No. 3 |
|-------------------------------------|-------|-------|-------|
| 2 nd Stage mixing | _____ | _____ | _____ |
| 2 nd Stage flocculation | _____ | _____ | _____ |
| 2 nd Stage sedimentation | _____ | _____ | _____ |
| Filtration: | | | |
| Single medium | _____ | _____ | _____ |
| Dual media | _____ | _____ | _____ |
| Multi-media | _____ | _____ | _____ |
| GAC cap on filters | _____ | _____ | _____ |
| Disinfection: | | | |
| Chlorine | _____ | _____ | _____ |
| Chlorine dioxide | _____ | _____ | _____ |
| Chloramines | _____ | _____ | _____ |
| Ozone | _____ | _____ | _____ |
| Granular Activated Carbon | _____ | _____ | _____ |
| List chemicals normally fed: | | | |

List chemicals sometimes fed:

3. Present Corrosion Control Treatment:

None _____

Inhibitor _____

Date initiated _____

Present dose _____

Range in Residual in Distributions System:

Maximum _____ mg/L Minimum _____ mg/L

Brand name _____

Type _____

Has it been effective? Please comment on your experience.

pH/alkalinity adjustment _____

pH Target _____

Alkalinity Target _____ mg/L CaCO₃

Calcium adjustment _____

Calcium Target _____ mg/L CaCO₃

4. Water Quality:

Complete the table below for typical untreated and treated water quality data. Copy this form as necessary for additional sources. Include data for each raw water source, if surface supplies are used, and finished water quality information (point of entry) from each treatment plant. If wells are used, water quality information from each well is acceptable but not necessary if several wells have similar data. For groundwater supplies, include a water quality summary from each wellfield or grouping of wells with similar quality.

Include available data for the following.

| Parameter | Untreated Supply | Treated Water (point of entry) |
|---------------------------------------|------------------|-----------------------------------|
| pH, units | | |
| Alkalinity, mg/L as CaCO ₃ | | |
| Conductivity, Fmho/cm@ 25 EC | | |
| Total dissolved solids, mg/L | | |
| Calcium, mg/L Ca | | |
| Hardness, mg/L as CaCO ₃ | | |
| Temperature, EC | | |
| Chloride, mg/L | | |
| Sulfate, mg/L | | |

5. Distribution System:

Does the distribution system contain lead service lines?

Yes _____ No _____

If your system has lead service lines, mark below the approximate number of lines which can be located from existing records.

None _____ Some _____ Most _____ All _____

Is the distribution system flushed?

None _____ Some _____ Most _____ All _____

6. Historical Information:

Is there a history of water quality complaints?

yes _____ no _____

If yes, then answer the following:

Are the complains documented? yes _____ no _____

Mark the general category of complaints below. Use:

1 for some complaints in this category

2 for several complaints in this category

3 for severe complaints in this category

Categories of complaints:

Taste and odor _____

Color _____

Sediment _____

Other (specify) _____

Have there been any corrosion control studies?

yes _____ no _____

If yes, please indicate:

Date(s) of study From _____ To _____

Study conducted by PWS personnel? yes _____ no _____

Brief results of study were:

(optional) Study results attached yes _____ no _____

Were treatment changes recommended: yes _____ no _____

If yes:

Were treatment changes implemented? yes _____ no _____

Have corrosion characteristics of the treated water changed? yes _____ no _____

If yes, how has change been measured?

General observation _____

Coupons _____

Frequency of complaints _____

Other _____

Briefly indicate, if other:

7. Treatment Constraints:

Optimal corrosion control treatment means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate and national primary drinking water regulations. Please indicate below which constraints to treatment will apply to your PWS. Use the following code:

- 1 Some constraint = Potential Impact but Extent is Uncertain
- 2 Significant constraint = Other Treatment Modifications Required to Operate Option
- 3 Severe constraint = Additional Capital Improvements Required to Operate Option
- 4 Very severe constraint = Renders Option Infeasible

| Constraint | Treatments | | | |
|-------------------------|--------------------------|--------------------|-----------------|----|
| | pH/Alkalinity Adjustment | Calcium Adjustment | Inhibitor | |
| | | | PO ₄ | Si |
| A. Regulatory | | | | |
| SOCs/IOCs | | | | |
| SWTR: Turbidity | | | | |
| Total Coliforms | | | | |
| SWTR/GWDR: Disinfection | | | | |
| Disinfection Byproducts | | | | |
| Lead and Copper Rule | | | | |
| Radionuclides | | | | |
| B. Functional | | | | |
| Taste & Odor | | | | |
| Wastewater Permit | | | | |
| Aesthetics | | | | |
| Operational | | | | |
| Other | | | | |

8. Desktop Evaluation:

Briefly summarize the review of the corrosion control literature that pertains to your PWS. A report of summary can be appended to this form if preferred.

Were other similar facilities located which are experiencing successful corrosion control?

yes _____ no _____

If yes, identify their corrosion control treatment method.

None _____

pH/Alkalinity adjustment _____

Calcium adjustment _____

Inhibitor _____

Phosphate based _____

Silica based _____

9. Recommendations:

The corrosion control treatment method being proposed is:

pH/Alkalinity adjustment _____

Target pH is _____ units

Target alkalinity is _____ mg/L as CaCO_3

Calcium adjustment _____

Target calcium concentration is _____ mg/L Ca

Inhibitor _____

Phosphate based _____

Brand name _____

Target dose _____ mg/L

Target residual _____ mg/L orthophosphate as P

Silica based _____

Brand name _____

Target dose _____ mg/L

Target residual _____ mg/L as SiO_2

Rational for the proposed corrosion control treatment is:

Discussed in the enclosed report _____

Briefly explained below _____

9. Recommendations (continued):

List your proposed operation guidelines:

Parameter

Operating Range

Briefly explain why these guidelines were selected.

10. Please provide any additional comments that will assist in determining optimal corrosion control treatment for your PWS.